

ERROR CORRECTION DECODER USING CELLS WITH PARTIAL SYNDROME GENERATION

ABSTRACT

A decoder to correct errors in data includes a plurality of cells. Each cell generates a partial syndrome based on data blocks and one or more redundancy blocks. Each cell generates a partial error value based on a portion of an inverse of an error location matrix that identifies locations of any data blocks having errors. A summation logic connected to the plurality of cells generates an error value based on the partial error values generated by the plurality of cells.